What is claimed is:

Claim 1. In an SMP computer system having an source-synchronous pipelined, self-calibrating interface, the method of recalibrating the interface, comprising the steps of:

a) halting operations of said SMP computer system having an source-synchronous pipelined, self-calibrating interface to idle the interface,

b) fencing the interface,

c) recalibrating the interface using clock readjustment,

d) unfencing the interface, and

e) commencing operations to allow interface use again.

Claim 2. The method according to claim 1, wherein said step of halting operations is done with a system quiesce operation.

Claim 3. The method according to claim 1, wherein said step of calibrating the interface is accomplished by sampling a known data pattern.

Claim 4. The method according to claim 1, wherein said step of calibrating the interface is accomplished by recalculating the frequency and applying the appropriate delay adjustment to the clock.

Claim 5. In an SMP computer system having an source-synchronous interface, the method for re-calibration of the interface at periodic intervals comprising the steps of:

a. putting the system of the interface into a wait state,

b. performing a fast initialization process for calibration,

c. taking the system of the interface out of said wait state.

Claim 6. The method according to claim 5 wherein wherein a step of data deskew has been performed as part of the original system interface initialization, and during recalibration of only a single clock centering step for the interface is performed during said fast initialization process for calibration without deskewing data during said fast initialization step performed for re-calibration.

Claim 7. The method according to claim 6 wherein said wait state keeps the interface from being used for processing steps other than re-calibration and sending a calibration pattern and allowing claibration logic to re-center the clock applicable to the interface to compensate for new environmental conditions and circuit changes.

Claim 8. The method according to claim 7 wherein the recalibration of the interface is triggered periodically and in a mannter that circuit or environmental characteristics over time do not adversely affect the operation of the interface.

Claim 9. The method according to claim 7 wherein the re-calibration is based on a trigger event which triggers the steps for re-calibration of the interface

Claim 10. The method according to claim 1 whrein a quiesce of the system of the interface if performed prior to performing a fast initialization process for calibration, and during calibration, the step of calibrating the interface recalculates the frequency of the clock for the interface and applies an appropriate delay adjustment to the clock for the interface, after which the system for the

interface is unquiesced before commencing operations to allow interface use again.

Claim 11. The method according to claim 10 wherein the recalibration stem includes sending a pattern across the interface and adjusting the clock through re-centering without data de-skewing but with shifing to the clock to re-center the intrface data capturing window for the 'eye' of the data capturing window.

Claim 12. The method according to claim 10 wherein the recalibration stem includes re-calculating the clock frequency of the interface against the current hardware and re-applying the clock frequency calculation to the clock delay to re-center the clock when the machine is being cycled down to failure and the major change needing re-calibration is cycle time.

Claim 13. The method of claim 5 wherein a state machine controls calibration, and said state machine allows
a. putting the system of the interface into a wait state and for quiescing the data over the interface when the state machine enters a re-calibration state, whereupon,
b. said a fast initialization process for calibration is performed, and then
c. a change of said stae machine changes the system of the interface back out of said wait state; and
d. Allows data to transfer across the interface again.